

In re Patent Application of Heinz et al.  
Serial No. 10/025,155  
Filed: December 18, 2001  
ANTENNA CONTROL SYSTEM

EDC/mjc  
March 12, 2002  
File No. 7836-84512US



Transmittal Letter (in duplicate); Information Disclosure Statement (in duplicate); Form PTO 1449 (in duplicate); Forty (40) U.S. references cited therein; Forty (40) foreign references cited therein; Ten (10) other documents cited therein; Postcard

Commissioner for Patents:

*ed*

Please acknowledge receipt of the above-identified documents by applying the Patent and Trademark Office receipt hereto and mailing this card.

Respectfully,  
Welsh & Katz, Ltd.

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March 12, 2002

Commissioner for Patents  
Washington, D.C. 20231

Re: Patent Application of Heinz et al.  
Serial No. 10/025,155  
Filed: December 18, 2001  
ANTENNA CONTROL SYSTEM  
Our File No. 7836-84512USC1

## CERTIFICATE OF MAILING

I hereby certify that this paper is being deposited with the United States Postal Service as first-class mail in an envelope addressed to: Commissioner for Patents, Washington, D.C. 20231, on this date.

3-12-02

Date Eric D. Cohen, Reg. No. 38,110

Dear Sir:

Enclosed herewith are the following:

1. Transmittal Letter (in duplicate);
2. Information Disclosure Statement (in duplicate);
3. Form PTO-1449 (in duplicate);
4. Forty (40) U.S. references cited therein;
5. Forty (40) foreign references cited therein;
6. Ten (10) other documents cited therein; and
7. Postcard.

The Commissioner is hereby authorized to charge any fees which may be required to Deposit Account No. 23-0920. A duplicate copy of this sheet is enclosed.

Very truly yours,

WELSH & KATZ, LTD.

By

  
Eric D. Cohen

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Heinz et al.	Group Art Unit:	Not Yet Assigned
Serial No.:	10/025,155	Examiner:	Not Yet Assigned
For:	ANTENNA CONTROL SYSTEM	Filed:	December 18, 2001

INFORMATION DISCLOSURE STATEMENT

- ☒ 1 Pursuant to 37 CFR 1.97(b)  
[within 3 months of filing or prior to 1<sup>st</sup> Office Action]
- ☐ 2 Certification Pursuant to 37 CFR 1.97(c)  
[before Final Office Action or Allowance]
- ☐ 3 Fee Payment Pursuant to 37 CFR 1.97(c)  
[before Final Office Action or Allowance]
- ☐ 4 Petition, Certification & Petition Fee Payment Pursuant to 37 CFR 1.97(d)  
[before issue fee payment]

Commissioner for Patents  
Washington, DC 20231

SIR:

The following are submitted in the above identified application in compliance with 37 CFR 1.97 & 1.98:

- ☒ 5 A list of documents on Form PTO-1449 together with copies of each identified document and a translation or a concise explanation of each non-English language document is enclosed herewith.

This paper is submitted in accordance with:


- ☒ 6 37 CFR 1.97(b): [within 3 months of filing or prior to 1<sup>st</sup> Office Action]
- ☐ 7 37 CFR 1.97(c): [before Final Office Action or Allowance, whichever is earlier]; and
  - ☐ 8 The required certification made in item 11 below, or
  - ☐ 9 The \$180.00 fee specified in 37 CFR § 1.17(p) for submission of this Information Disclosure Statement is authorized in item 14 below.
- ☐ 10 37 CFR 1.97(d): [before issue fee payment]; and
  - a) This is a petition for consideration of the subject Information Disclosure Statement. The petition fee (\$180.00) required by 37 CFR 1.17(i)(1) is authorized in item 14 below. (Direct this letter to: "Attention PETITIONS EXAMINER" and if applicable include batch locator information: e.g. "Allowed Files, Batch \_\_\_\_\_, Date of Allowance \_\_\_\_\_"), and
  - b) The required Certification is stated in item 11 below.

☐ 11 Certification

- ☐ 12 Each item of information in this Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Statement; or
- ☐ 13 No item of information contained in this Statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to the knowledge of the person signing this document after making reasonable inquiry, was known to any individual designated in 37 CFR 1.56(c) more than three (3) months prior to the filing of this Statement.
- ☒ 14 Please charge all applicable fees associated with the submittal of this Information Disclosure Statement to Deposit Account No. 23-0920. An original and one (1) copy of this document are enclosed.

Respectfully submitted,

WELSH & KATZ, LTD.

  
Eric D. Cohen  
Reg. No. 38,110


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March 12, 2002

**CERTIFICATE OF MAILING**

I hereby certify that this paper is being deposited with the United States Postal Service as first-class mail in an envelope addressed to: Commissioner for Patents, Washington, D.C. 20231, on this date:

3-12-02

Date

  
Eric D. Cohen, Esq.  
Registration No. 38,110  
Attorney for Applicants

Form PTO-1449 (Rev. 8-88)		U.S. Department of Commerce Patent and Trademark Office		Attorney Docket No. 84512USC1		Serial No. 10/025,155	
<b>INFORMATION DISCLOSURE STATEMENT</b> (Use several sheets if necessary)				Applicants Heinz et al.			
				Filing Date December 18, 2001		Group No. Not Yet Assigned	
<b>U.S. PATENT DOCUMENTS</b>							
Examiner Initial*		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
		2,041,600	05/19/36	H.T. Friis			
		2,432,134	12/09/47	V.B. Bagnall			
		2,540,696	02/06/51	W.J. Smith, Jr.			
		2,596,966	05/13/52	W.W. Lindsay, Jr.			
		2,648,000	08/04/53	M.G. White			
		2,773,254	12/04/56	H.F. Engelmann			
		2,836,814	05/27/58	J.J. Nail			
		2,968,808	01/17/61	L. Russell			
<b>FOREIGN PATENT DOCUMENTS</b>							
		Document Number/ Acceptance Number	Date	Country	Class	Subclass	<div style="text-align: center;">Translation</div> <div style="display: flex; justify-content: space-between;"> <span>Yes</span> <span>No</span> </div>
		AU-B-38746/93; 656857	29/07/93	Australia			X
		AU-B-41625/93; 664625	20/01/94	Australia			X
		AU-B-80057/94; 688398	04/05/95	Australia			X
		DE 3323 234 A1	10/01/85	Germany			Abstract Only
		O 137 562 A2	17/04/85	EPO			X
<b>OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)</b>							
		Variable-Elevation Beam-Aerial Systems for 1 ½ Metres, <u>Journal IEE Part IIIA</u> , Vol. 93, 1946, Bacon, G.E.					
		Radar Antennas, <i>Bell Systems Technical Journal</i> , Volume 26, April, 1947, pages 219 to 317, Friis, H.T. and Lewis, W.D.					
		<i>The Sydney University Cross-Type Radio Telescope</i> , Proceedings of the IRE Australia, February, 1963, pages 156 to 165, Mills, B.Y., et al.					
		"Microwave Scanning Systems" published about 1985, pages 48 to 131					
		"Low Sidelobe and Titled Beam Base-Station Antennas for Smaller-Cell Systems," published in or about 1989, Yamada & Kijima, NTT Radio Communication Systems Laboratories, pages 138 to 141					
		"Electrical Downtilt Through Beam-Steering versus Mechanical Downtilt," G. Wilson, published May 18, 1992, pages 1-4					
Examiner				Date Considered			
*Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.							

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<b>U.S. PATENT DOCUMENTS</b>							
Examiner Initial*		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
		3,032,759	05/01/62	R.M. Ashby			
		3,032,763	05/01/62	C.J. Sletten			
		3,969,729	07/13/76	Nemit			
		4,129,872	12/12/78	Toman			
		4,241,352	12/23/80	Alspaugh et al.			
		4,427,984	01/24/84	Anderson			
		4,249,181	02/03/81	Lee			
		4,532,518	07/30/85	Gaglione et al.			
<b>FOREIGN PATENT DOCUMENTS</b>							
		Document Number	Date	Country	Class	Subclass	Translation
							Yes      No
		0 241 153 B1	14/10/87	EPO			X
		0 357 165 A2	07/03/90	EPO			X
		0 398 637 A2	22/11/90	EPO			X
		0 423 512 A2	24/04/91	EPO			Abstract Only
		0 588 179 A1	23/03/94	EPO			Abstract Only
<b>OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)</b>							
		Mobile Telephone Panel Array (MTPA) Antenna: Field Adjustable Downtilt Models published in Australia on or about May 4, 1994					
		Mobile Telephone Panel Array (MTPA) Antenna: VARITILT Continuously Variable Electrical Downtilt Models (including specifications sheet) published in Australia on or about September 1994.					
		Supplementary European Search Report for Application No. EP 95 93 3674 dated January 9, 1999.					
		International Search Report for PCT/NZ 95/00106 mailed January 23, 1996.					
Examiner				Date Considered			
*Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.							

Form PTO-1449  
(Rev. 8-88)U.S. Department of Commerce  
Patent and Trademark OfficeAttorney Docket No.  
84512USC1Serial No.  
10/025,155INFORMATION DISCLOSURE STATEMENT  
(Use several sheets if necessary)

Applicants

Heinz et al.

Filing Date  
December 18, 2001Group No.  
Not Yet Assigned

## U.S. PATENT DOCUMENTS

Examiner Initial*	Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
	4,564,824	01/14/86	Boyd, Jr.			
	4,575,697	03/11/86	Rao et al.			
	4,652,887	03/24/87	Cresswell			
	4,714,930	12/22/87	Winter et al.			
	4,717,918	01/05/88	Finken			
	4,768,001	08/30/88	Chan-Son-Lint et al.			
	4,788,515	11/29/88	Wong et al.			
	4,791,428	12/13/88	Anderson			

## FOREIGN PATENT DOCUMENTS

	Document Number	Date	Country	Class	Subclass	Translation	
						Yes	No
	0 595 726 A1	04/05/94	EPO			Abstract Only	
	0 618 639 A2	05/10/94	EPO			X	
	2 581 255	31/10/86	France			Abstract Only	
	1 314 693	26/04/73	UK			X	
	2 035 700 A	18/06/80	UK			X	

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)


Examiner

Date Considered

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<b>U.S. PATENT DOCUMENTS</b>							
Examiner Initial*		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
		4,804,899	12/14/89	Wurdack et al.			
		4,814,774	03/21/89	Herczfeld			
		4,821,596	04/18/89	Eklund			
		5,162,803	11/10/92	Chen			
		5,181,042	01/19/93	Kaise et al.			
		5,184,140	02/02/93	Hariu et al.			
		5,214,364	05/25/93	Perdue et al.			
		5,281,974	01/25/94	Kuramoto et al.			
<b>FOREIGN PATENT DOCUMENTS</b>							
		Document Number	Date	Country	Class	Subclass	Translation
							Yes      No
		2 158 996 A	20/11/85	UK			X
		2 159 333 A	27/11/85	UK			X
		2 165 397 A	09/04/86	UK			X
		2 196 484 A	27/04/88	UK			X
		2 205 946 A	21/12/88	UK			X
<b>OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)</b>							
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<b>U.S. PATENT DOCUMENTS</b>							
Examiner Initial*		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
		5,440,318	08/08/95	Butland et al.			
		5,488,737	01/30/96	Harbin et al.			
		5,512,914	04/30/96	Hadzoglou et al.			
		5,551,060	08/27/96	Fujii et al.			
		5,801,600	09/01/98	Butland et al.			
		5,805,996	09/08/98	Salmela			
		5,818,385	10/06/98	Bartholomew			
		6,198,458 B1	03/06/01	Heinz et al.			
<b>FOREIGN PATENT DOCUMENTS</b>							
		Document Number	Date	Country	Class	Subclass	Translation
							Yes      No
		2 232 536 A	12/12/90	UK			X
		61-172411	04/08/86	Japan (See separate abstract.)			Abstract Only
		1-120906	12/05/89	Japan (See separate abstract.)			Abstract Only
		2-121504	09/05/90	Japan (See separate abstract.)			Abstract Only
		2-174402	05/07/90	Japan (See separate abstract.)			Abstract Only
<b>OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)</b>							
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Examiner Initial*		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
<b>FOREIGN PATENT DOCUMENTS</b>							
		Document Number	Date	Country	Class	Subclass	Translation Yes      No
		2-290306	30/11/90	Japan (See separate abstract)			Abstract Only
		4-286407	12/10/92	Japan			Abstract Only
		5-121915	18/05/93	Japan			Abstract Only
		5-191129	30/07/93	Japan			Abstract Only
		6-196927	15/07/94	Japan			Abstract Only
<b>OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)</b>							
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Examiner Initial*		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
<b>FOREIGN PATENT DOCUMENTS</b>							
		Document Number	Date	Country	Class	Subclass	Translation
		264864	Filed: 04/11/94	New Zealand			Yes    No
		272778	Filed: 15/08/95	New Zealand			X
		WO 95/10862	20/04/95	PCT - New Zealand			X
		WO 88/08621	03/11/88	PCT - US			X
		3322-986-A	25/06/83	DE (Abstract Only)			X
<b>OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)</b>							
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U.S. PATENT DOCUMENTS							
Examiner Initial*		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate

FOREIGN PATENT DOCUMENTS								
		Document Number	Date	Country	Class	Subclass	Translation	
							Yes	No
		3323-234-A	28/06/83	DE (Abstract only)			X	
		137-562-A	07/10/83	EP (Abstract only)			X	
		241-153-A	07/04/86	EP (Abstract only)			X	
		357-165-A	31/08/88	EP (Abstract only)			X	
		398-637-A	17/05/89	EP (Abstract only)			X	

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)		

<b>Examiner</b>	<b>Date Considered</b>
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